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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,224	02/13/2004	Harald Hirschmann	MERCK-2839	2499
23599	7590	02/01/2006	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			WU, SHEAN CHIU	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/777,224	HIRSCHMANN ET AL.	
	Examiner	Art Unit	
	Shean C. Wu	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 is/are allowed.
- 6) ☒ Claim(s) 1-20 and 22-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-5, 7-19, 22-23 and 25-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claims 1 and 22-23 and 26-27, the notation R⁵ is vague because the notation m is 1. The groups F, Cl, CF₃ or OCF₃ are additional not alternative groups beside R^a.

Also, in Claims 22 and 23, the compound of formula IV is an additional compound. The word “further” should be insert before “comprising” and the compounds of B-2 and IV should be different from the compounds of B and IIa in Claims 20 and 21.

Claim 25 is indefinite because it depends on itself.

Claims 2-5 and 7-19 are rejected because they are dependent claims.

2. The indicated allowability of claim 20 is withdrawn in view of the reference to Andou.
Rejections based on the cited reference follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20, 22 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andou et al. (US 6,007,740).

The reference discloses that novel compounds represented by formula (I) are useful for liquid crystal display modes, e.g. TN, STN and TFT. The reference compounds have good compatibility with other liquid crystalline compound, high dielectric anisotropy, suitable refractive anisotropy, low viscosity, high response speed, low threshold voltage, physical and chemical stability, wide nematic temperature range and superior compatibility with other liquid crystals.

The Use Example 24 of the reference on col. 259 comprises 3-HHCF2OB (F, F)-F (corresponding A-2), 1V2-BEB(F, F)-C (corresponding B-2), 3-HB-C (corresponding IIIb) and BTB core structure (corresponding T2a) and Use Example 26 of the reference on col. 259-260 comprising 3-HHCF2OB (F, F)-F (corresponding A-2), 3-BEB (F, F)-C (corresponding B-1), HB-C core structure (corresponding IIIb), and HH-2V and V2-HHB core structure (corresponding IV').

The reference differs from the present claims in that the claimed media are not exemplified, which media comprise an additional compound of formula IV. However, the compounds of formula IV (including the formula IIa) IIc and IIf are taught and disclosed by the reference, which are useful for the liquid crystal medium and display devices (see Use example 33). Therefore, it would have been obvious to those skilled in the art to add a compound of formula IIa, IIc and IIf to the present Use Examples 24 or 26 to arrive at the claimed invention.

The reference differs from the present claims in that the claimed media are not exemplified, which media comprise an additional compound of formula B-2, which is different from the present compound of B. Because the compounds of B-1 and B-2 (encompassed by formula B) are suitable and known (Use Examples 24 and 26 in Andou and Use examples 7 and 8 in US 6,500,503) for the liquid crystal medium and display devices, it would have been obvious to those skilled in the art to mix B-1 in Use Example 24 or B-2 in Use Example 26 to arrive at the claimed invention.

The reference also differs from the claims in that the claims have more specific display elements, which the reference does not specify. However, the present TN or STN liquid crystal display is well known in the art, it would have been obvious to those skilled in the art to utilize such known display by using the reference media to arrive at the claimed invention.

With respect to claim 11, the reference compounds having high dielectric anisotropy (see examples 13, 20 on col. 248), it would have been obvious to optimize the reference compound of formula (I) to have high dielectric anisotropy as claim does.

With respect to claim 18, it would also been obvious to modify the reference compound of formula A-2 by adjusting chain-length of the left terminal to have three homologous compounds of A-2 to arrive at the claimed medium.

Response to Arguments

5. Applicant's arguments filed 1/19/06, with respect to the rejections in the previous Office action have been fully considered and are persuasive. Therefore, the rejection has been

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withdrawn. However, upon further consideration, new grounds of rejection are made in sections 1 and 4 above.

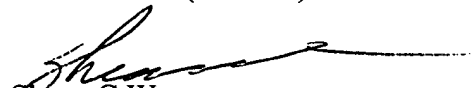
Allowable Subject Matter

6. Claim 21 is allowed.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Shean C Wu
Primary Examiner
Art Unit 1756

scw